

Good Morning





Welcome to Resilience Week 2015 !



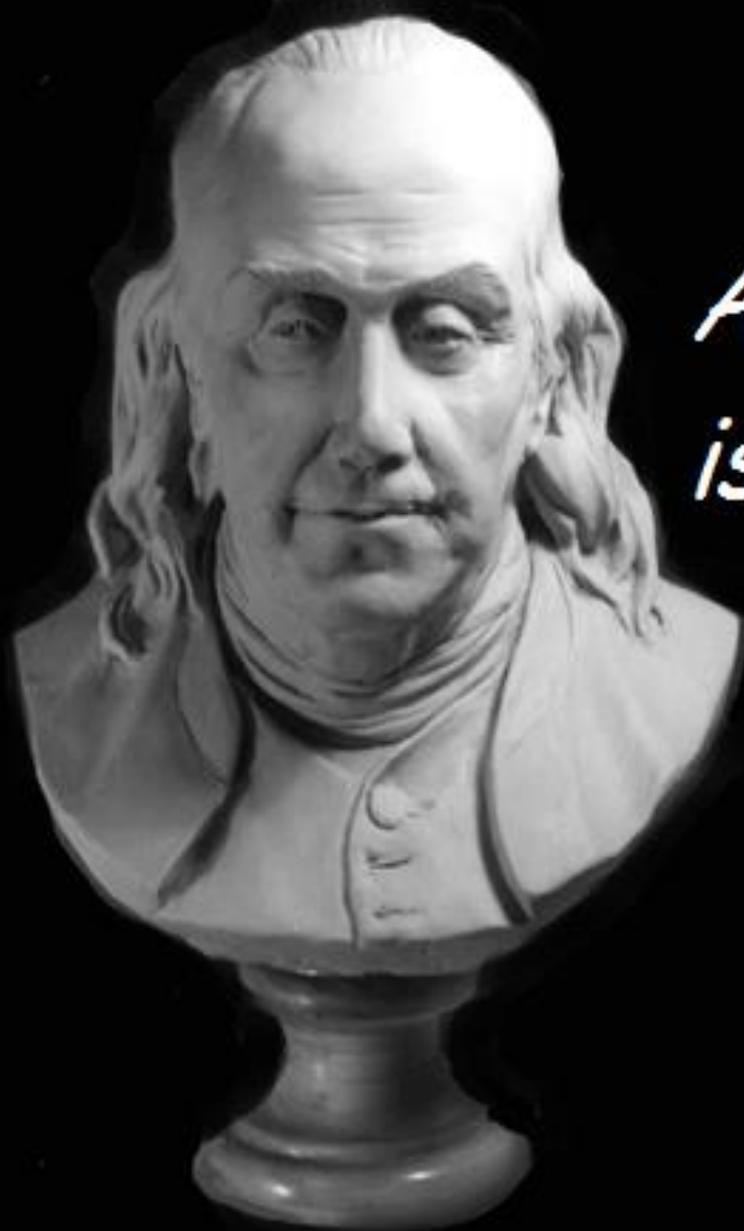
- 890 square miles
- 111 miles of electrical transmission and distribution lines
- Multiple grid control centers & substations
- 579 buildings
- 177 miles of paved roads
- 14 miles of railroad lines
- 3 reactors
- Mass transit system
- Security
- Museum
- 300 metric tons of used fuel
- Educational and research partnerships – CAES
- Craig Rieger
- 2 Moose





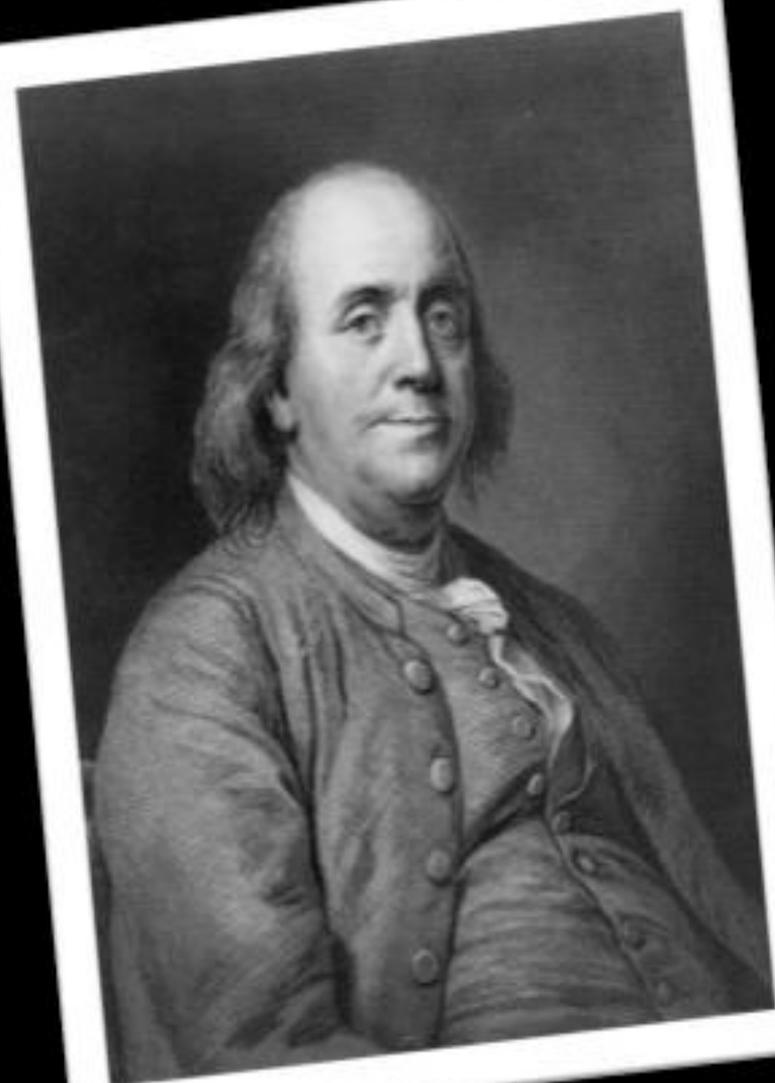






*An ounce of prevention
is worth a pound of cure*

- Ben Franklin



**By failing to prepare,
you are preparing to fail.**

- Benjamin Franklin

Dependency

Reliance on
the functionality provided by
some other external component

Interdependency

A mutual dependence,
connection or correlation

Vulnerability

The inability of people, organizations, systems and societies to withstand adverse impacts from multiple stressors to which they are exposed

Resilience

The mental ability to recover quickly from depression, illness or misfortune

The physical property of material that can resume its shape after being stretched or deformed; elasticity

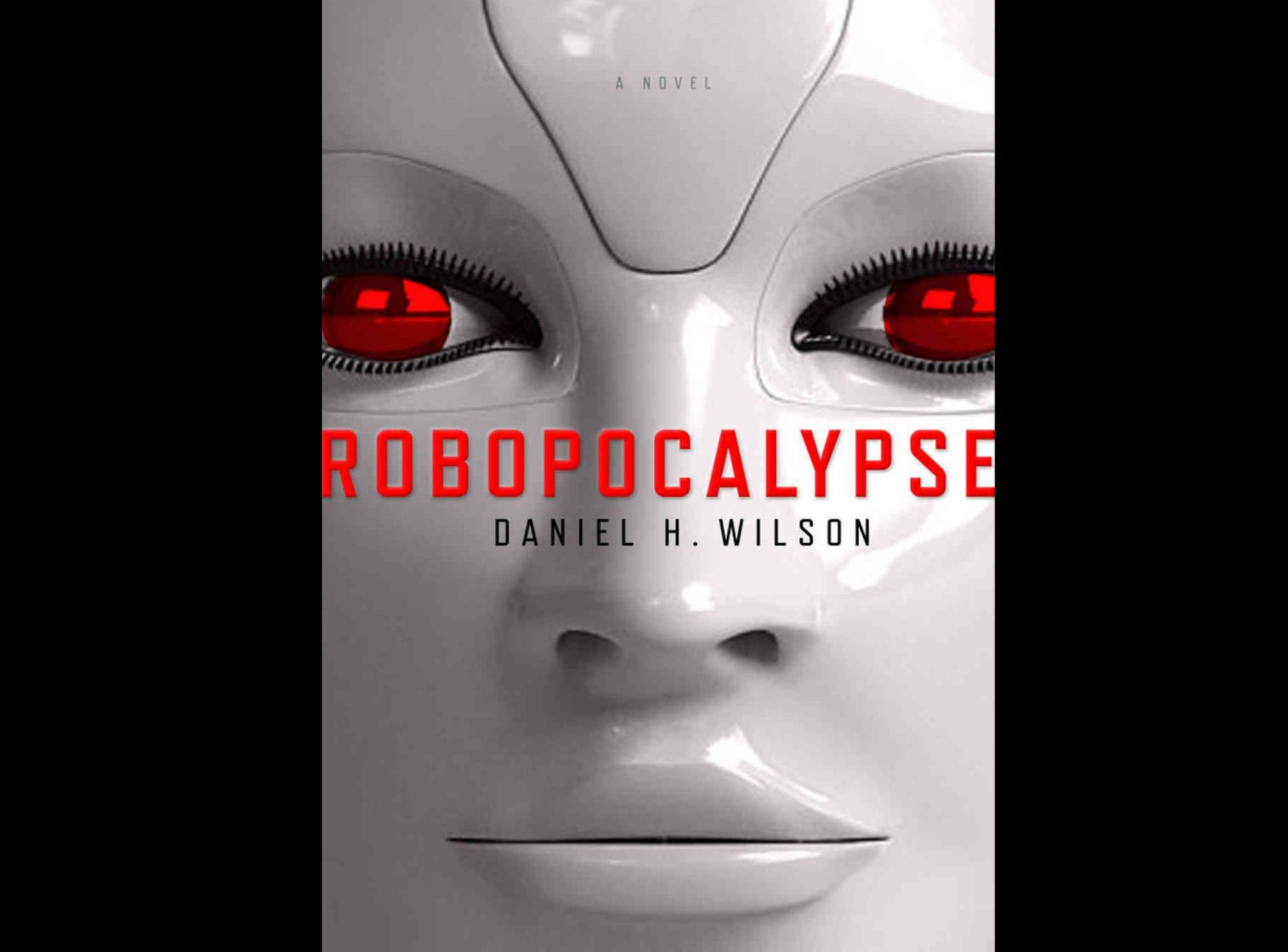
The positive ability of a system or organization to adapt itself to the consequences of a catastrophic failure caused by power outage, a fire, a bomb or similar

Resilience (Rieger*)

A resilient control system is one that maintains state awareness and an accepted level of operational normalcy in response to disturbances, including threats of an unexpected and malicious nature.

* Wikipedia on “Resilient Control Systems”





A NOVEL

ROBOPOCALYPSE

DANIEL H. WILSON

NEXUS 1

RAMEZ NAAM



NEXUS

INSTALL

"GOOD. SCARY GOOD."
WIRED.COM



NEXUS 2

RAMEZ NAAM



CRUX

UPGRADE

"PROVOCATIVE... A DOUBLE-EDGED
VISION OF THE POST-HUMAN."
THE WALL STREET JOURNAL



NEXUS 3

RAMEZ NAAM



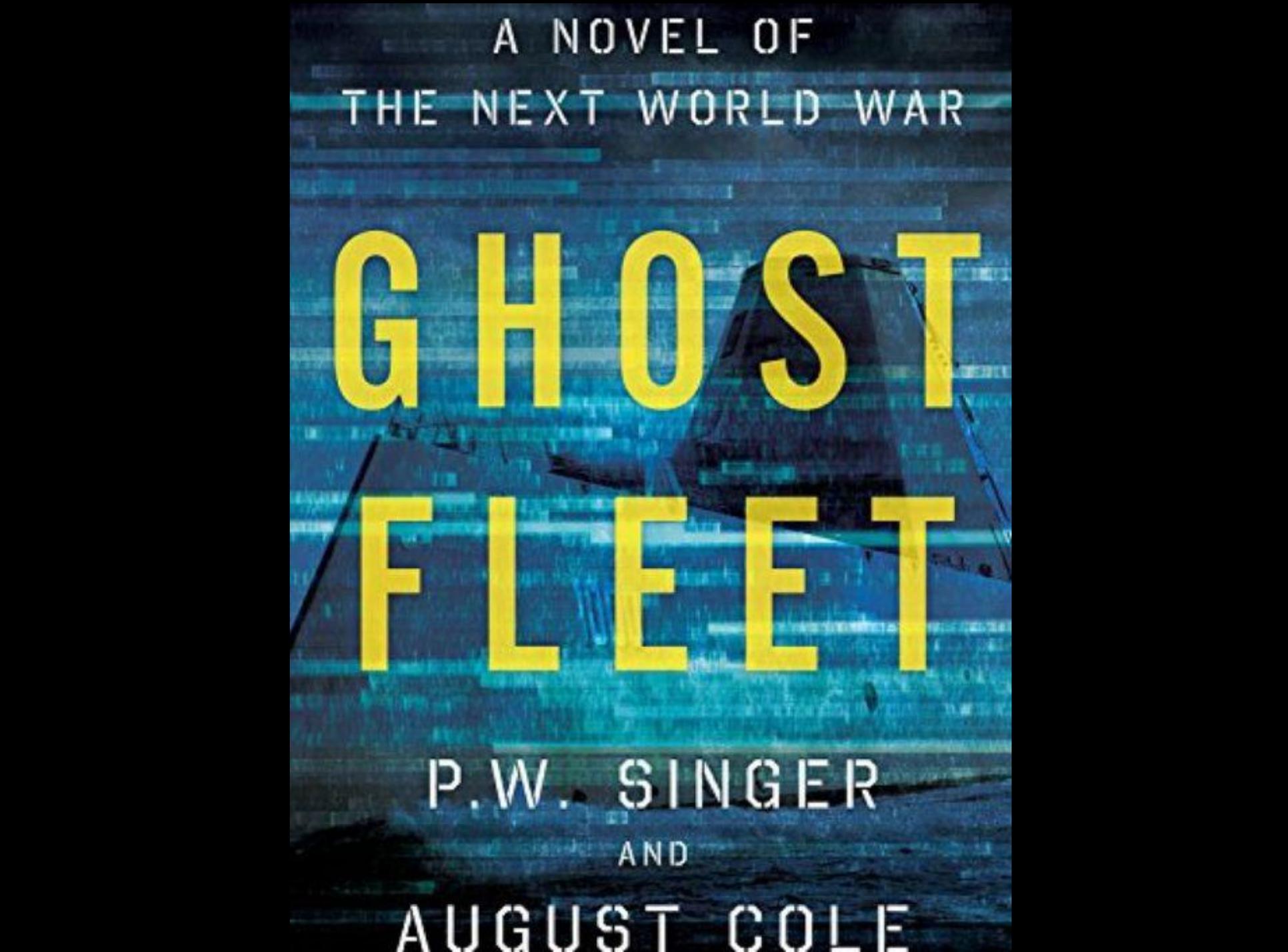
APEX

CONNECT

"A LIGHTNING BOLT OF A NOVEL, WITH A SENSE OF AWE
MISSING FROM A LOT OF CURRENT FICTION."
ARS TECHNICA



A NOVEL OF
THE NEXT WORLD WAR



GHOST
FLEET

P.W. SINGER

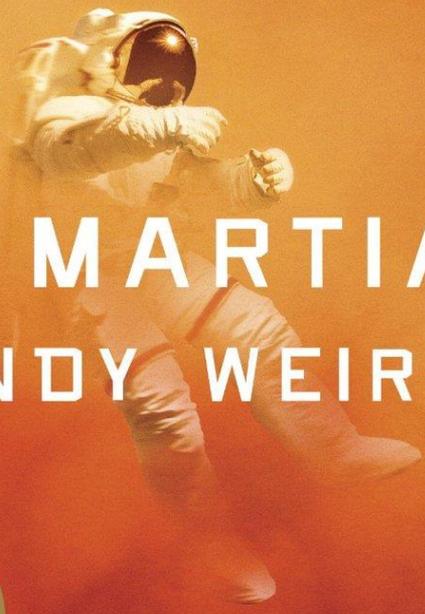
AND

AUGUST COLE

"BRILLIANT . . . A CELEBRATION OF HUMAN INGENUITY [AND] THE
PUREST EXAMPLE OF REAL-SCIENCE SCI-FI FOR MANY YEARS . . .

UTTERLY COMPELLING."—WALL STREET JOURNAL

NEW YORK TIMES
BESTSELLER



THE MARTIAN

ANDY WEIR

SOON TO BE
A MAJOR MOTION
PICTURE STARRING
MATT DAMON



A NOVEL



RESILIENCY: How Superstorm Sandy Changed America's Grid

by Stephen Lacey

 greentechmedia

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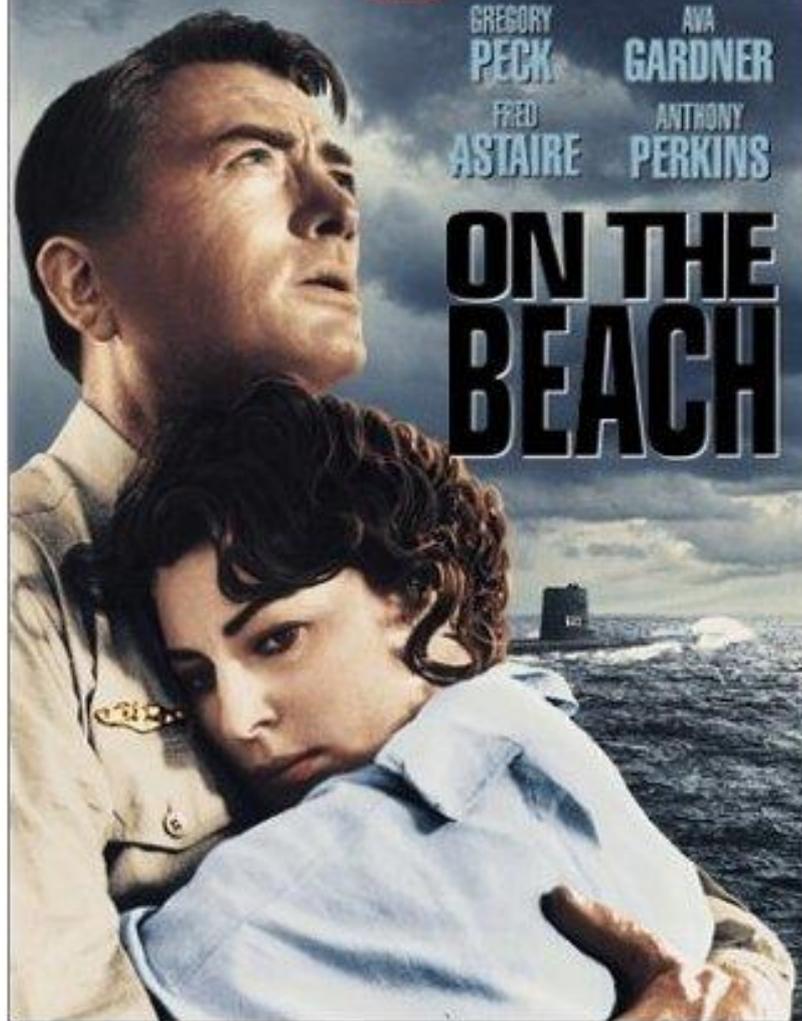
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ON THE BEACH



THE EDGE OF

Why do we remain unprepared for the next terrorist attack or natural disaster? **Where are we most vulnerable?** How have we allowed our government to be so negligent? **Who will keep you and your family safe?** Is America living on borrowed time? **How can we become a more resilient nation?**

DISASTER

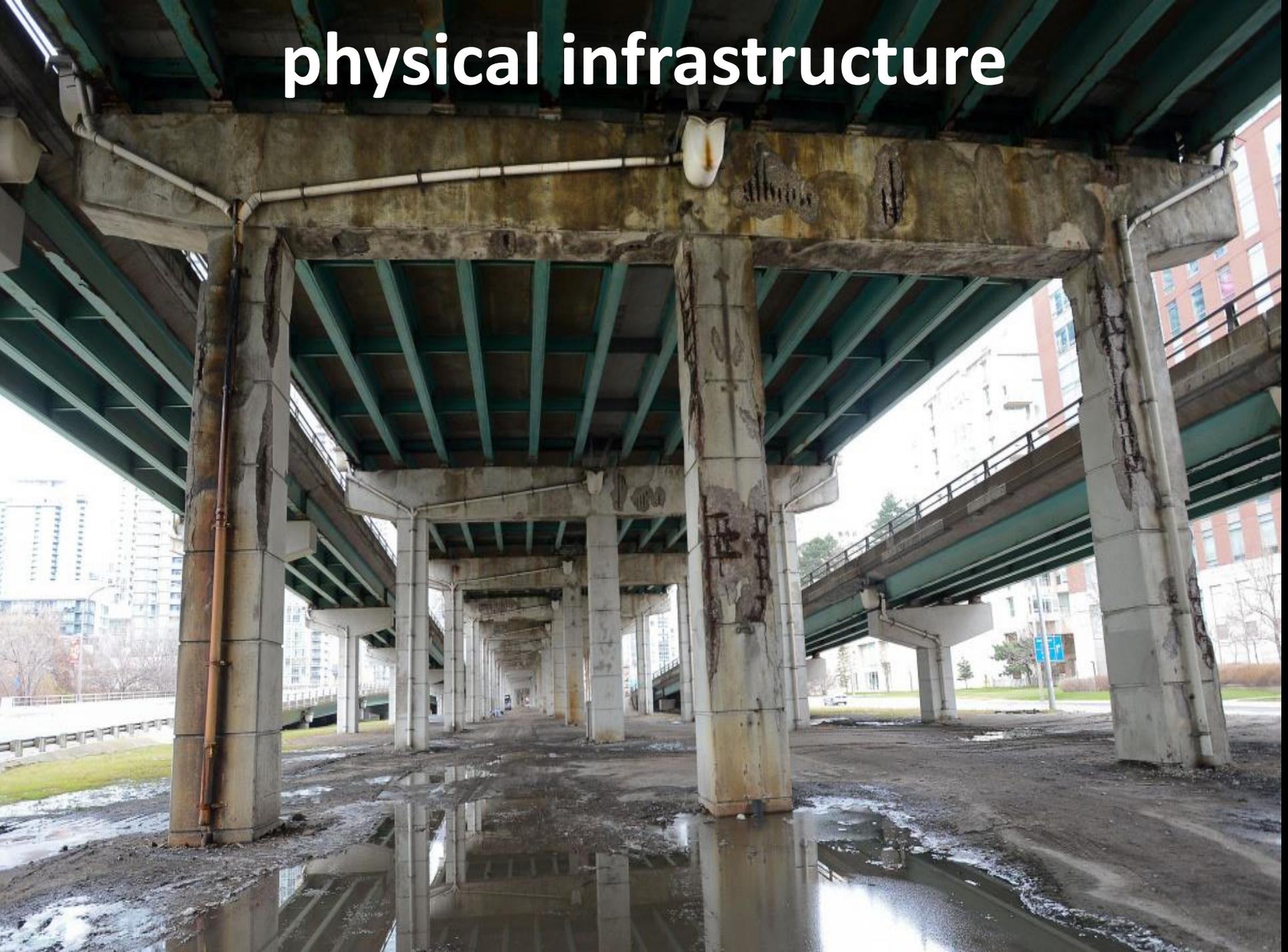
STEPHEN FLYNN



Northeastern University
Center for Resilience Studies

Dependency vs. Vulnerability

physical infrastructure



cyber and automation systems

A wide-angle, high-angle photograph of a vast data center. The room is filled with rows of server racks, each illuminated with a soft blue glow. The ceiling is a complex network of dark metal beams and pipes, with several long, rectangular light fixtures hanging from it. The floor is a light-colored, tiled surface. The overall atmosphere is one of a highly organized and technologically advanced environment.

infrastructure systems





weather



space weather

environment





climate and weather



physical attack

suppliers and supply chain





bonus: earth

Exercise and Exercises





**future capabilities =
more dependencies +
more vulnerabilities**

let's be ready



The background of the slide features a series of high-voltage power line towers, also known as pylons, silhouetted against a vibrant orange and yellow sunset sky. The towers are arranged in a perspective that recedes into the distance, with several smaller towers visible in the background. The overall mood is warm and professional.

**thanks &
enjoy the conference**

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